



STIC Search Report

EIC 2800

STIC Database Tracking Number 141208

TO: Jose Dees
Location: JEF-8D59
12/28/2004
TC2800
Case Serial No. : 09/915,710

From: Jeff Harrison
Location: STIC-EIC2800
JEF-4B68
Phone: 22511

Email: harrison, jeff

Search Notes

Re: 09/915,710 US 5,929,466

Attached are results of litigation searches in Lexis-Nexis, Courtlink, and Questel-Orbit databases.

No U.S. litigation was found.

If you'd like explanation or additional searching, let me know.

Respectfully,

Jeff

Jeff Harrison
Team Leader, STIC-EIC2800
JEF-4B68, 571-272-2511

Litigation involving patent 5,929,466

Click on the docket number to view the docket.
Click on the above patent number to view the patent.

Docket Case Heading Date Filed Date Retrvd

There are no cases involving this patent number.

Source: Legal > Area of Law - By Topic > Patent Law > Patents > U.S. Patents > Utility Patents [i](#)
Terms: 5656832 or 5929466 or 5,656,832 or 5,929,466 [\(Edit Search\)](#)

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874299 (08) 5929466 July 27, 1999

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

5929466

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[Link to Claims Section](#)

July 27, 1999

Semiconductor device and method of fabricating the same

REISSUE: Reissue Application filed Jul, 27, 2001 (O.G. Dec. 18, 2001) Ex. Gp.: 2815; Re. S.N. 09/915,710, (O.G. December 18, 2001)

INVENTOR: Ohba, Yasuo, Yokohama, JP; Hatano, Ako, Tokyo, JP

APPL-NO: 874299 (08)

FILED-DATE: June 13, 1997

GRANTED-DATE: July 27, 1999

PRIORITY: March 9, 1994 - 6038157, Japan (JP); January 6, 1995 - 7000704, Japan (JP)

ASSIGNEE-AT-ISSUE: Kabushiki Kaisha Toshiba, Kawasaki, JP

LEGAL-REP: Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

PUB-TYPE: July 27, 1999 - Utility Patent having no previously published pre-grant publication (A)

PUB-COUNTRY: United States (US)

REL-DATA:

Addition of Ser. No. **5656832**

Addition of Ser. No. 400865, March 8, 1995

US-MAIN-CL: 257#103

US-ADDL-CL: 257#96, 257#97, 257#190, 257#E29.09, 257#E29.091, 257#E33.028

CL: 257

Litigation involving patent 5,656,832

Click on the docket number to view the docket.
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 Docket  Case Heading  Date Filed  Date Retrvd 

There are no cases involving this patent number.

Source: Legal > Area of Law - By Topic > Patent Law > Patents > U.S. Patents > Utility Patents [i](#)
Terms: 5656832 or 5929466 or 5,656,832 or 5,929,466 [\(Edit Search\)](#)

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400865 (08) 5656832 August 12, 1997

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[Link to Claims Section](#)

August 12, 1997

Semiconductor heterojunction device with ALN buffer layer of 3nm- 10nm average film thickness

INVENTOR: Ohba, Yasuo, Yokohama, JP; Hatano, Ako, Tokyo, JP

APPL-NO: 400865 (08)

FILED-DATE: March 8, 1995

GRANTED-DATE: August 12, 1997

PRIORITY: March 9, 1994 - 6038157, Japan (JP); January 6, 1995 - 7000704, Japan (JP)

ASSIGNEE-AT-ISSUE: Kabushiki Kaisha Toshiba, Kawasaki, JP

ASSIGNEE-AFTER-ISSUE: May 1, 1995 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., KABUSHIKI KAISHA TOSHIBA 72 HORIKAWA- CHO, SAIWAI-KU KAWASAKI-SHI, JAPAN, Reel and Frame Number: 007444/0804

LEGAL-REP: Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

PUB-TYPE: August 12, 1997 - Utility Patent having no previously published pre-grant publication (A)

PUB-COUNTRY: United States (US)

US-MAIN-CL: 257#190

US-ADDL-CL: 257#96, 257#97, 257#103, 257#E29.091, 257#E33.028, 372#43, 372#50

CL: 257, 372

SEARCH-FLD: 257#96, 257#97, 257#103, 257#190, 372#43, 372#50

Litigation involving patent 5,909,040

Click on the docket number to view the docket.
Click on the above patent number to view the patent.

 **Docket**  **Case Heading**  **Date Filed**  **Date Retrvd** 

There are no cases involving this patent number.

Source: [Legal > Area of Law - By Topic > Patent Law > Patents > U.S. Patents > Utility Patents](#) 
Terms: [patno=5909040](#) ([Edit Search](#))

866056 (08) 5909040 June 1, 1999

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[Link to Claims Section](#)

June 1, 1999

Semiconductor device including quaternary buffer layer with pinholes

INVENTOR: Ohba, Yasuo, Yokohama, JP; Hatano, Ako, Tokyo, JP

APPL-NO: 866056 (08)

FILED-DATE: May 30, 1997

GRANTED-DATE: June 1, 1999

PRIORITY: March 9, 1994 - 6038157, Japan (JP); January 6, 1995 - 7000704, Japan (JP)

ASSIGNEE-AT-ISSUE: Kabushiki Kaisha Toshiba, Kawasaki, JP

ASSIGNEE-AFTER-ISSUE: May 30, 1997 - ASSIGNMENT OF ASSIGNORS INTEREST (SEE DOCUMENT FOR DETAILS)., KABUSHIKI KAISHA TOSHIBA 72 HORIKAWA- CHO, SAIWAI-KU KAWASAKI-SHI JAPAN, Reel and Frame Number: 008588/0395

LEGAL-REP: Oblon, Spivak, McClelland, Maier & Neustadt, P.C.

PUB-TYPE: June 1, 1999 - Utility Patent having no previously published pre-grant publication (A)

PUB-COUNTRY: United States (US)

REL-DATA:

Addition of Ser. No. 5656832

Addition of Ser. No. 400865, March 8, 1995

US-MAIN-CL: 257#190

US-ADDL-CL: 257#13, 257#96, 257#97, 257#103, 257#E29.09, 257#E29.091, 257#E33.028, 372#44, 372#50

CL: 257, 372

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FD - Cont. of US400865 19950308 [1995US-0400865]

Continuation of: US5656832

PR - US87429997 19970613 [1997US-0874299]

JP3815794 19940309 [1994JP-0038157]

JP70495 19950106 [1995JP-0000704]

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PCL - ORIGINAL (O) : 257103000; CROSS-REFERENCE (X) : 257E29090 257E29091 257E33028 257096000 257097000

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DT - Corresponding document

CT - US5218216; US5247533; US5523589; US5578839; JP2-229476; JP4-297023; JP5-183189

STG - (A) United States patent

1 / 1 LGST - ©EPO

PN - US5929466 A 19990727 [US5929466]

AP - US87429997 19970613 [1997US-0874299]

ACT - 20011218 US/RF-A

REISSUE APPLICATION FILED

EFFECTIVE DATE: 20010727

UP - 2003-22

1 / 1 CRXX - ©CLAIMS/RRX

AN - 3176221

PN - 5,929,466 A 19990727 [US5929466]

PA - Toshiba Corp JP

PT - CE (Chemical Electrical)

ACT - 20010727 REISSUE REQUESTED

ISSUE DATE OF O.G.: 20011218

REISSUE REQUEST NUMBER: 09/915710

EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 2815

Reissue Patent Number:

UP - 2001-51

UACT - 2001-12-18

 Patent Family Search Results

US5929466/PN Results : 5

PATENT FAMILY

#	Patent No.	Kind	Date	Applic.No.	Date
<u>1)</u>	JP07249795	A	19950926	1994JP-0038157	19940309
	JP3325380	B2	20020917		
<u>2)</u>	JP08186332	A	19960716	1995JP-0000704	19950106
	JP3244980	B2	20020107		
<u>3)</u>	US5656832	A	19970812	1995US-0400865	19950308
<u>4)</u>	US5909040	A	19990601	1997US-0866056	19970530
<u>5)</u>	US5929466	A	19990727	1997US-0874299	19970613

Priority :

1994JP-0038157	19940309
1995JP-0000704	19950106
1995US-0400865	19950308
1997US-0866056	19970530
1997US-0874299	19970613



1/5 PLUSPAT - ©QUESTEL-ORBIT - image

PN -  JP7249795 A 19950926 [JP07249795]
STG - (A) Doc. Laid open to publ. Inspec.
TI - (A) SEMICONDUCTOR DEVICE
PA - (A) TOKYO SHIBAURA ELECTRIC CO
PA0 - (A) TOSHIBA CORP
IN - (A) OBA YASUO; HATANO GOKOU
IC - (A) H01L-033/00
PN2 - JP3325380 B2 20020917 [JP3325380]
STG2 - (B2) Grant. Pat. With A from 2500000 on
IC2 - (B2) H01L-033/00 H01S-005/323
AP - JP3815794 19940309 [1994JP-0038157]
PR - JP3815794 19940309 [1994JP-0038157]



2/5 *PLUSPAT - ©QUESTEL-ORBIT - image*

PN -  JP8186332 A 19960716 [JP08186332]
STG - (A) Doc. Laid open to publ. Inspec.
TI - (A) MANUFACTURE OF SEMICONDUCTOR ELEMENT
PA - (A) TOKYO SHIBAURA ELECTRIC CO
PA0 - (A) TOSHIBA CORP
IN - (A) OBA YASUO; HATANO GOKOU
IC - (A) H01L-021/205 H01L-033/00 H01S-003/18
PN2 - JP3244980 B2 20020107 [JP3244980]
STG2 - (B2) Grant. Pat. With A from 2500000 on
IC2 - (B2) H01S-005/02
AP - JP70495 19950106 [1995JP-0000704]
PR - JP70495 19950106 [1995JP-0000704]

3/5 *PLUSPAT - ©QUESTEL-ORBIT - image*

PN -  US5656832 A 19970812 [US5656832]
STG - (A) United States patent
TI - (A) Semiconductor heterojunction device with ALN buffer layer of 3nm-10nm average film thickness
PA - (A) TOKYO SHIBAURA ELECTRIC CO (JP)
PA0 - Kabushiki Kaisha Toshiba, Kawasaki [JP]
IN - (A) HATANO AKO (JP); OHBA YASUO (JP)
IC - (A) H01L-027/15 H01L-029/205 H01S-003/19
AP - US40086595 19950308 [1995US-0400865]
PR - JP3815794 19940309 [1994JP-0038157]
JP70495 19950106 [1995JP-0000704]
EC - H01L-029/205
H01L-033/00C4D3C
H01L-033/00G3B2
H01S-005/323B4
ICO - T01S-005/02H2
T01S-005/042E
PCL - ORIGINAL (O) : 257190000; CROSS-REFERENCE (X) : 257E29091
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DT - Basic

1/1 *LEGALI - ©EPO*

PN - US5656832 A 19970812 [US5656832]
AP - US40086595 19950308 [1995US-0400865]
ACT - 19950501 US/AS02-A
ASSIGNMENT OF ASSIGNOR'S INTEREST
OWNER: KABUSHIKI KAISHA TOSHIBA 72 HORIKAWA-CHO, SAIWAI-K; EFFECTIVE DATE: 19950405

19950501 US/AS02-A
ASSIGNMENT OF ASSIGNOR'S INTEREST
OWNER: OHBA, YASUO; EFFECTIVE DATE: 19950405

19950501 US/AS02-A
ASSIGNMENT OF ASSIGNOR'S INTEREST
OWNER: HATANO, AKO; EFFECTIVE DATE: 19950405

UP - 2003-22



4/5 PLUSPAT - ©QUESTEL-ORBIT - image

PN -  US5909040 A 19990601 [US5909040]
STG - (A) United States patent
TI - (A) Semiconductor device including quaternary buffer layer with pinholes
PA - (A) TOKYO SHIBAURA ELECTRIC CO (JP)
PA0 - Kabushiki Kaisha Toshiba, Kawasaki [JP]
IN - (A) HATANO AKO (JP); OHBA YASUO (JP)
IC - (A) H01L-031/0304 H01L-033/00
AP - US86605697 19970530 [1997US-0866056]
PR - US86605697 19970530 [1997US-0866056]
JP3815794 19940309 [1994JP-0038157]
JP70495 19950106 [1995JP-0000704]
US40086595 19950308 [1995US-0400865]
EC - H01L-029/201
H01L-029/205
H01L-033/00C4D3C
H01L-033/00G3B2
PCL - ORIGINAL (O) : 257190000; CROSS-REFERENCE (X) : 257E29090
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372044000 372050000
DT - Basic

1/1 LEGALI - ©EPO

PN - US5909040 A 19990601 [US5909040]
AP - US86605697 19970530 [1997US-0866056]
ACT - 19970530 US/AS02-A
ASSIGNMENT OF ASSIGNOR'S INTEREST
OWNER: KABUSHIKI KAISHA TOSHIBA 72 HORIKAWA-CHO, SAIWAI-K; EFFECTIVE DATE: 19970521

19970530 US/AS02-A
ASSIGNMENT OF ASSIGNOR'S INTEREST
OWNER: OHBA, YASUO; EFFECTIVE DATE: 19970521

19970530 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST
OWNER: HATANO, AKO; EFFECTIVE DATE: 19970521

UP - 2003-22



5/5 PLUSPAT - ©QUESTEL-ORBIT - image

PN - US5929466 A 19990727 [US5929466]

STG - (A) United States patent

TI - (A) Semiconductor device and method of fabricating the same

PA - (A) TOKYO SHIBAURA ELECTRIC CO (JP)

PA0 - Kabushiki Kaisha Toshiba, Kawasaki [JP]

IN - (A) HATANO AKO (JP); OHBA YASUO (JP)

IC - (A) H01L-029/205 H01L-031/0304 H01L-033/00

AP - US87429997 19970613 [1997US-0874299]

PR - US87429997 19970613 [1997US-0874299]

JP3815794 19940309 [1994JP-0038157]

JP70495 19950106 [1995JP-0000704]

US40086595 19950308 [1995US-0400865]

EC - H01L-029/201
H01L-029/205
H01L-033/00C4D3C
H01L-033/00G3B2
H01S-005/323B4

ICO - T01S-005/02H2
T01S-005/042E

PCL - ORIGINAL (O) : 257103000; CROSS-REFERENCE (X) : 257E29090
257E29091 257E33028 257096000 257097000 257190000

DT - Corresponding document

1/1 LEGALI - ©EPO

PN - US5929466 A 19990727 [US5929466]

AP - US87429997 19970613 [1997US-0874299]

ACT - 20011218 US/RF-A
REISSUE APPLICATION FILED
EFFECTIVE DATE: 20010727

UP - 2003-22

Search statement 2

[Top](#)

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Query/Command : prt fu legalall max

1/1 PLUSPAT - ©QUESTEL-ORBIT - image

PN -  US5656832 A 19970812 [US5656832]
TI - (A) Semiconductor heterojunction device with ALN buffer layer of 3nm-10nm average film thickness
PA - (A) TOKYO SHIBAURA ELECTRIC CO (JP)
PA0 - Kabushiki Kaisha Toshiba, Kawasaki [JP]
IN - (A) HATANO AKO (JP); OHBA YASUO (JP)
AP - US40086595 19950308 [1995US-0400865]
PR - JP3815794 19940309 [1994JP-0038157]
 JP70495 19950106 [1995JP-0000704]
IC - (A) H01L-027/15 H01L-029/205 H01S-003/19
EC - H01L-029/205
 H01L-033/00C4D3C
 H01L-033/00G3B2
 H01S-005/323B4
ICO - T01S-005/02H2
 T01S-005/042E
PCL - ORIGINAL (O) : 257190000; CROSS-REFERENCE (X) : 257E29091
 257E33028 257096000 257097000 257103000 372043000 372050000
DT - Basic
CT - US5218216; US5247533; JP2229476 H; JP4297023 H; JP5183189 H
STG - (A) United States patent
AB - A semiconductor device comprises a single crystal substrate, a nucleus formation buffer layer formed on the single crystal substrate, and a lamination layer including a plurality of Al_{1-x-y}GaxInyN (0</=x</=1, 0</=y</=1, x+y</=1) layers laminated above the nucleus formation buffer layer. The nucleus formation buffer layer is formed of Al_{1-s-t}GasIntN (0</=s</=1, 0</=t</=1, s+t</=1) and is formed on a surface of the substrate such that the nucleus formation buffer layer has a number of pinholes for control of polarity and formation of nuclei. A method of fabricating a semiconductor device comprises the steps of: forming, above an Al_{1-x-y}GaxInyN (0</=x</=1, 0</=y</=1, x+y</=1) semiconductor layer doped with a p-type dopant, a cap layer for preventing evaporation of a constituent element of the semiconductor layer, the cap layer being formed of one of AlN in which a p-type dopant is added and Al₂O₃, subjecting the semiconductor layer to heat treatment, and removing at least a part of the cap layer.

1/1 LGST - ©EPO

PN -  US5656832 A 19970812 [US5656832]
AP - US40086595 19950308 [1995US-0400865]
ACT - 19950501 US/AS02-A
 ASSIGNMENT OF ASSIGNEE'S INTEREST
 OWNER: KABUSHIKI KAISHA TOSHIBA 72 HORIKAWA-CHO, SAIWAI-

K; EFFECTIVE DATE: 19950405

19950501 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: OHBA, YASUO; EFFECTIVE DATE: 19950405

19950501 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: HATANO, AKO; EFFECTIVE DATE: 19950405

UP - 2003-22

Search statement 4

Back

Query/Command : prt fu legalall max

1/1 PLUSPAT - ©QUESTEL-ORBIT - image

PN -  US5909040 A 19990601 [US5909040]

TI - (A) Semiconductor device including quaternary buffer layer with pinholes

PA - (A) TOKYO SHIBAURA ELECTRIC CO (JP)

PA0 - Kabushiki Kaisha Toshiba, Kawasaki [JP]

IN - (A) HATANO AKO (JP); OHBA YASUO (JP)

AP - US86605697 19970530 [1997US-0866056]

FD - C.I.P. of US400865 19950308 [1995US-0400865]
Continuation-in-part of: US5656832

PR - US86605697 19970530 [1997US-0866056]
JP3815794 19940309 [1994JP-0038157]
JP70495 19950106 [1995JP-0000704]
US40086595 19950308 [1995US-0400865]

IC - (A) H01L-031/0304 H01L-033/00

EC - H01L-029/201
H01L-029/205
H01L-033/00C4D3C
H01L-033/00G3B2

PCL - ORIGINAL (O) : 257190000; CROSS-REFERENCE (X) : 257E29090
257E29091 257E33028 257013000 257096000 257097000 257103000
372044000 372050000

DT - Basic

CT - US5006908; US5239188; US5247533; US5578839; US5587593; US5665986;
US5684309; US5729029
Kamp et al Mat. Res. Soc. Symp. Proceed. vol. 395 "GaN in Materials"
"NH.sub.3 in GaN" pp. 135-139, Dec. 1995.

Van der Stricht et al Mat. Res. Soc. Symp. proceed. vol. 395 "GaN in Materials"
"The Effect of a GaN . . . Deposition" pp. 231-236, Dec. 1995.

STG - (A) United States patent

AB - A semiconductor device comprises a single crystal substrate, a nucleus formation buffer layer formed on the single crystal substrate, and a lamination layer including a plurality of Al_{1-x-y}Ga_xIn_yN (0</=x</=1, 0</=y</=1, x+y</=1) layers laminated above the nucleus formation buffer layer. The nucleus formation buffer layer is formed of Al_{1-s-t}GasIntN (0</=s</=1, 0</=t</=1, s+t</=1) and formed on a surface of the substrate with an average film thickness of 5 nm to 20 nm such that the nucleus formation buffer layer has a number of pinholes for control of polarity and formation of nuclei. The pinholes are formed among loosely formed small crystals of Al_{1-s-t}GasIntN (0</=s</=1, 0</=t</=1, s+t</=1).

1/1 LGST - ©EPO

PN -  US5909040 A 19990601 [US5909040]

AP - US86605697 19970530 [1997US-0866056]

ACT - 19970530 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: KABUSHIKI KAISHA TOSHIBA 72 HORIKAWA-CHO, SAIWAI-K; EFFECTIVE DATE: 19970521

19970530 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: OHBA, YASUO; EFFECTIVE DATE: 19970521

19970530 US/AS02-A

ASSIGNMENT OF ASSIGNOR'S INTEREST

OWNER: HATANO, AKO; EFFECTIVE DATE: 19970521

UP - 2003-22

Search statement 5

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SEARCH REQUEST FORM Scientific and Technical Information Center - EIC2800
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141208

Date <u>12/29/04</u>	Serial # <u>09/915710</u>	Priority Application Date _____
Your Name <u>Davis, Jose</u>	Examiner # <u>59676</u>	
AU <u>250</u>	Phone _____	Room <u>Jeff OR 059</u>
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5929466

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What is the topic, such as the novelty, motivation, utility, or other specific facets defining the
desired focus of this search? Please include the concepts, synonyms, keywords, acronyms,
registry numbers, definitions, structures, strategies, and anything else that helps to describe the
topic. Please attach a copy of the abstract and pertinent claims.

US 5929466 REISSUE CASE

Litigation Search

Staff Use Only

Searcher: HARRISON

Searcher Phone: 32511

Searcher Location: STIC-BIG2800, JEP-4B68

Date Searcher Picked Up: 12-28-04

Date Completed: 12-28-04

Searcher Prep/Rev Time: 10

Online Time: 10

Type of Search

Structure (#) _____

Bibliographic _____

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